1. A non-volatile transistor device, comprising:

a source region and a drain region of a first semiconductor type of material and each in electrical communication with a respective terminal;

a channel region of a second semiconductor type of material disposed between the source and drain region;

a gate structure made of at least one of semiconductive or conductive material and disposed over an insulator over the channel region;

a control gate made of at least one of semiconductive or conductive material and in electrical communication with a respective terminal;

an electromechanically-deflectable nanotube switching element in electrical communication with one of the gate structure and the control gate structure and positioned to be electromechanically deflectable into contact with the other of the gate structure and the control gate structure, wherein when the nanotube switching element is in communication with both the control gate and the gate structure, the control gate may be used to modulate the conductivity of the channel region.

2. The non-volatile transistor device of claim 1 wherein the nanotube switching element is an article formed from a porous fabric of nanotubes.

3. The non-volatile transistor device of claim 1 wherein the fabric is substantially a monolayer of nanotubes.

4. The non-volatile transistor device of claim 1 wherein the nanotubes are single-walled carbon nanotubes.

5. The non-volatile transistor device of claim 1 wherein the source and drain regions are disposed on or in a horizontal substrate and wherein the nanotube article is suspended vertically in relation to the horizontal substrate.

6. The non-volatile transistor device of claim 1 further comprising a release gate and release node positioned in spaced relation to the nanotube switching element, wherein, in response to a signal on the release node, the release gate electromechanically deflects the nanotube switching element out of contact with the one of the control gate and gate structure.

7. The non-volatile transistor of claim 1 wherein the one of the control gate and gate structure includes a covering layer and wherein the nanotube switching element switches out of contact with the one of the control gate and gate structure and into contact with the covering layer.

8. The non-volatile transistor device of claim 1 wherein the contact between the nanotube switching element and the one of the control gate and gate structure is a non-volatile state.

9. The non-volatile transistor device of claim 1 wherein the one of the control gate and the gate structure includes a covering layer and wherein the contact between the nanotube switching element and the one of the control gate and the gate structure is a non-volatile state.

10. The non-volatile transistor device of claim 1 wherein modulation of the conductivity of the channel region includes inverting the channel region.

11. The non-volatile transistor device of claim 1 wherein the device occupies an area of $8F^2$.

12. The non-volatile transistor device of claim 6 wherein the release node includes a covering layer made from insulating material.

13. The non-volatile transistor device of claim 6 wherein the release node includes a covering layer made from semiconducting material.

14. The non-volatile transistor device of claim 6 wherein the release node includes a covering layer made from metallic material.

15. An array of non-volatile transistor devices, comprising at least two devices, each device including:

a source region and a drain region of a first semiconductor type of material and each in electrical communication with a respective terminal;

a channel region of a second semiconductor type of material disposed between the source and drain region;

a gate structure made of at least one of semiconductive or conductive material and disposed over the channel region;

a control gate made of at least one of semiconductive or conductive material and in electrical communication with a respective terminal;

an electromechanically-deflectable nanotube switching element in electrical communication with one of the gate structure and the control gate structure , and positioned to be electromechanically deflectable into contact with the other of the gate structure and the control gate structure wherein when the nanotube switching element is in communication with both the control gate and the gate structure, the control gate may be used to modulate the conductivity of the channel region, and

wherein the array includes a release line and a release node shared by at least two adjacent transistor devices, the release node positioned in spaced relation to each of the nanotube switching elements, wherein, in response to a signal on the release node, the release gate electromechanically deflects the nanotube switching elements out of contact with the respective ones of the control gates and gate structures.

16. The array of claim 10 wherein the release node includes a covering layer and wherein in response to a signal on the release node, the release gate electromechanically deflects the nanotube switching elements out of contact with the respective ones of the control gates and gate structures, and into contact with the covering layer on the release gate.

17. The array of claim 16 wherein the release node includes a covering layer made from insulating material.

18. The array of claim 16 wherein the release node includes a covering layer made from semiconducting material.

19. The array of claim 16 wherein the release node includes a covering layer made from metallic material.